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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,149	08/16/2000	Krishnamurthy Vaidy Anathan	US 000206	1287

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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/12/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

File

Office Action Summary	Application No.	Applicant(s)	
	09/639,149	VAIDY ANATHAN ET AL.	
	Examiner	Art Unit	
	Raymond Phan	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: notice of appeal filed on October 3, 2003.
2. This application has been examined. Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11-13, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smyers et al. (US No. 6,233,637) in view of Mergard et al. (US No. 5,941,968).

In regard to claim 1, Smyers et al. disclose a bridge comprising a plurality of interface registers that are configured to facilitate communication of data with a plurality of function units (see col. 3, lines 37-52). But Smyers et al. do not specifically disclose a plurality of register transfer unit, operably coupled to the plurality of interface registers, that facilitate transfers of data among interface registers of the plurality of interface registers. However Mergard et al. disclose data steering logic (i.e. register transfer unit), operably coupled to the plurality of interface registers 208, that facilitate transfers of data among interface registers of the plurality of interface registers (see figure 2, col. 5, line 60 through col. 6, line

3). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Mergard et al. within the system of Smyers et al. because it would reduce the processing load of instruction processor.

In regard to claims 2, 4, Mergard et al. disclose the bridge further comprising an instruction memory that is configured to contain register transfer instructions wherein the operable coupling of the plurality of register transfer units and the plurality of function units is effected via the register transfer instructions (see figure 2, col. 7, line 44 through col. 8, line 12). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Mergard et al. within the system of Smyers et al. because it would reduce the processing load of instruction processor.

In regard to claim 3, Smyers et al. disclose the bridge further comprising at least one datapath unit, that facilitate a transformation of at least one data item of the data that is transferred among the interface registers (see col. 6, lines 16-39).

In regard to claim 11, Smyers et al. disclose the method of receiving data at plurality of interface registers, operable to communicate with a plurality of function units (i.e. applications) (see col. 3, lines 30-52); allowing at least one of function units to process the data in at least one interface registers (see col. 3, lines 38-45). But Smyers et al. do not specifically disclose the step of communicating the data among at least two of the interface registers using the plurality of register transfer units; allowing at least one of the function units to further processor the data in at least one of the interface registers. However Mergard et al. disclose the step of communicating the data among at least two of the interface registers using the plurality of register transfer (see figure 2, col. 5, line 60 through col. 6, line 3);

allowing at least one of the function units to further processor the data in at least one of the interface registers (see figure 2, col. 5, line 60 through col. 6, line 3). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Mergard et al. within the system of Smyers et al. because it would reduce the processing load of instruction processor.

In regard to claim 12, Mergard et al. disclose wherein the data among at least two of the interface registers comprises using register transfer instruction in the instruction memory (i.e. control register) to communicate the data among at least two of the interface registers (see figure 2, col. 5, line 60 through col. 6, line 3). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Mergard et al. within the system of Smyers et al. because it would reduce the processing load of instruction processor.

In regard to claim 13, Smyers et al. disclose the transforming (i.e. manipulating) at least one data item of the data that is transferred among the interface registers (see col. 13, lines 1-65).

5. Claims 5, 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smyers et al. in view of Mergard et al. and further in view of Applicant Admitted Prior Arts (hereinafter AAPA).

In regard to claims 5, 14, Smyers et al. and Mergard et al. teach the claimed subject matter as discussed above except the teaching of DSP. However AAPA discloses the use of DSP (see page 2 of present application specification). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of AAPA within

the system of Smyers et al. and Mergard et al. because it would help the bridge to process the digital data efficiently.

In regard to claims 15-16, Smyers et al. disclose receiver is configured to provide a digital input stream (see col. 3, lines 43-64); a bridge comprising a plurality of interface registers that are configured to facilitate communication of data with a plurality of function units (see col. 3, lines 37-52); and a plurality of register transfer unit, operably coupled to the plurality of interface registers, that facilitate transfers of data among interface registers of the plurality of interface registers (see col. 3, line 64 through col. 4, line 7). But Smyers et al. do not specifically teach a channel decoder, operably coupled to the receiver, that is configured to decode the digital input stream into a decoded signal stream. However AAPA disclose the channel decoder, operably coupled to the receiver, that is configured to decode the digital input stream into a decoded signal stream (see page 1 in the present application specification). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of AAPA within the system of Smyers et al. because it would modify the bridge to transmit simultaneously digital data across

Allowable Subject Matter

6. Claims 6-10 are allowable over the prior art of records.
7. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claim 6 is allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior arts which teach a channel decoder that is configured to decode the digital input stream into decoded signal

stream comprising a bridge having the plurality of register transfer units facilitating transfer of data of the digital input stream among interface registers of the plurality of interface registers and transfer of data from the interface registers to provide the decoded signal stream.

8. The remaining claims, not specifically mentioned, is allowed for the same reason as set for claim 6.

9. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments in the Notice of Appeal with respect to claims, 1-5, 11-16, have been considered but claims 1-5 and 11-16 are deemed to be moot in view of the new grounds of rejection. Finality is withdrawn. Examiner is apologizing for any inconvenience may have caused.

11. Applicant's arguments in the Notice of Appeal, see pages 7-11, filed October 3, 2003, with respect to the rejections of claims 1-5 and 11-16 under 35 U.S.C. § 102 & 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mergard et al.

Conclusion

12. Claims 1-5, 11-16 are rejected. Claims 6-10 are allowed. Claim 17 is objected.

13. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Greenberger (US No. 6,675,187) discloses a pipelined linear array of processor elements for performing matrix computations.

Nemirovsky et al. (US No. 6,292,888) disclose a register transfer unit for electronic processor.

Nemirovsky et al. (US No. 5,784,649) disclose a multi-threaded FIFO pool buffer and bus transfer control system.

Fan (US No. 6,237,069) discloses an apparatus and method for transferring data between memories having different word widths.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary Examiner, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 746-7239.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Raymond Phan

1/8/04

